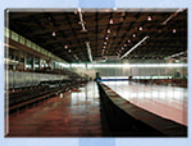
SALT LAKE 2002

Salt Lake Organizing Committee

Environmental Performance Review



January 2002

CH2MHILL

SALT LAKE 2002

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Salt Lake City is the first city to host the Games since environment became an Olympic principle.

As preparations for the 2002 Olympic Winter Games continue, the Salt Lake Organizing Committee (SLOC) retained CH2M HILL[1] to review the 12 Point Environmental Platform of the Salt Lake City Olympic Bid Document and to assess the performance of the SLOC in accomplishing the objectives described in the Platform.

During the week of September 4, 2001, a team of CH2M HILL staff conducted interviews with the SLOC staff, Environmental Advisory Committee (EAC) members, and others as part of the performance review. The team visited Olympic venues to observe construction and environmental management approaches and discussed the overall and specific environmental programs and procedures with the SLOC and the EAC. The SLOC made available all information requested by CH2M HILL for review and assessment. This report[2] is the result of those efforts.

Introduction and Background

Until recently, the Olympic Movement was guided primarily by two governing principles: sport and culture. In 1994, the International Olympic Committee (IOC) added environment as the third governing principle of the Olympic Movement. This expansion of the Olympic theme required committees bidding on the 2002 Olympic Winter Games to address environmental issues throughout the bid process. While previous host cities added environmental programs after their bids had been accepted, Salt Lake City is the first city to host the Games since environment became an Olympic principle.

The EAC was established in September 1994 to ensure that the SLOC addressed environmental issues in the most appropriate manner throughout the bidding process and in all aspects of planning and staging the Games. The EAC membership was designated so as to represent the diverse interests from throughout the environmental community, including citizen environmentalists, the U.S. Forest Service, environmental engineers, recycling specialists, and city, state, and federal environmental representatives.

The EAC was chartered to assist the SLOC in developing and implementing strategies, tactics, and action plans to achieve the following goals:

- *To raise environmental awareness within the SLOC and within the community as a whole*
- *To facilitate environmental education*
- *To recommend sound ecological measures to the SLOC, particularly those which lead toward the IOC's goal of environmental sensitivity*
- *To maintain the environment as a priority of the SLOC*
- *To monitor the SLOC's progress in meeting its environmental goals*
- *To bring together experts in the various environmental areas and seek input from these specialists*
- *To facilitate communications with federal, state, and local agencies that have permitting jurisdiction for portions of the 2002 Olympic Winter Games*

One of the first tasks undertaken by the EAC was to develop a set of guiding environmental principles that would be useful to the Salt Lake Olympic effort and integrate environmental sensitivity throughout all aspects of developing and staging the Games. The guidelines took considerable time to develop and were articulated in 12 general environmental principles or platform points. These principles were presented to the SLOC Board of Trustees on March 28, 1995 and were adopted shortly thereafter. This 12 Point Environmental Platform is presented in Table 1.

It is the intent of this report to review each platform point and assess the SLOC's performance versus the goals associated with each item.

SPIRIT OF THE LAND™
SLOC ENVIRONMENTAL PROGRAM

Table 1

SUMMARY OF THE 12 POINT ENVIRONMENTAL PLATFORM OF THE SALT LAKE ORGANIZING COMMITTEE

1. Management
To integrate environmental sensitivity into every aspect of the Games in its administration through budgetary, organizational and procedural means.

2. Environmental Design and Construction
To ensure that design and use of Olympic facilities adequately assess and minimize environmental impacts and complement natural surroundings.

3. Temporary Facilities
To ensure that temporary facilities can be reused in a manner which benefits the entire community. Also, to restore any natural areas which are impacted by the installation and removal of such facilities.

4. Energy and Water Conservation
To build facilities and adopt practices which conserve our valuable natural resources.

5. Materials Management
To responsibly manage material selection, use, consumption and disposition to minimize environmental impact.

6. Official Suppliers, Contractors, and Sponsors
To work with suppliers, contractors, and sponsors to ensure that the products and the methods in which they are delivered are environmentally responsible.

7. Cultural Events and Ceremonies
To use high profile events to further environmental education and to serve as a model for environmentally responsible event management.

8. Sports and Sports Organizations
To encourage the Olympic teams and sports organizations to develop environmental messages and profiles that are suited to the sport itself and to the Olympic spirit.

9. Environmental Education
To realize the Olympics as a unique vehicle to educate both children and adults regarding environmental issues.

10. Transportation
To minimize transportation impacts, their related environmental problems, encourage mass transit and other environmentally responsible modes of transportation.

11. Lodging and Food Services
To provide environmentally sensitive lodging and food services for our visitors.

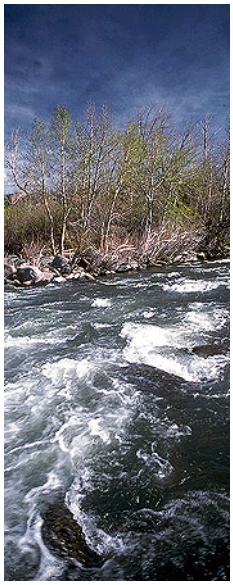
12. Environmental Monitoring
To monitor the progress of the SLOC in meeting its environmental goals.

1. Management

Goal...

To integrate environmental sensitivity into every aspect of the Games in its administration through budgetary, organizational and procedural means.

"It is SLOC's policy to achieve a high standard of environmental protection and enhancement in every aspect of planning for and staging the Olympic Winter Games of 2002 and the Paralympic Winter Games. SLOC's approach to environmental management seeks continuous improvement by integrating an internal review process and the concerns of both regulatory agencies and citizen-based environmental organizations into…(an) Environmental Management System."



The SLOC first addressed this goal with the establishment of the EAC in 1994 and the adoption of the EAC's 12 Point Environmental Platform in the spring of 1995. With the hiring of Diane Conrad Gleason as Environmental Coordinator in November 1995, the SLOC established a solid basis for the environmental program. Diane Conrad Gleason's position was soon expanded to Director of Environmental Programs, reporting directly to the President and CEO of the SLOC. The EAC formed working groups to address each of the platform points and provided their results and recommendations to the Director of Environmental Programs for consideration and implementation.

The SLOC formulated an Environmental Policy, which applied to all SLOC employees; all SLOC-related venues, functions and operations; contractors; and suppliers of goods and services. The policy stated, "It is SLOC's policy to achieve a high standard of environmental protection and enhancement in every aspect of planning for and staging the Olympic Winter Games of 2002 and the Paralympic Winter Games. The SLOC's approach to environmental management seeks continuous improvement by integrating an internal review process and the concerns of both regulatory agencies and citizen-based environmental organizations into…(an) Environmental Management System."

It is important to note that the SLOC specifically committed to:

- *Complying with all applicable federal, state, and local laws and regulations*
- *Adopting appropriate operational practices and training programs to ensure SLOC employee awareness of their environmental management responsibilities*
- *Factoring environmental considerations into procurement practices whenever environmentally and economically practical*
- *Supporting programs to educate the public in environmental issues and raising the general consciousness of the citizens of Utah and world guests in the importance of protecting and preserving the environment*
- *Leaving a legacy of environmental enhancement and improvement*

These commitments are based more upon protection and compliance than on enhancement, and reflect the attitude of Olympic host cities in addressing and managing potential risk.

Although the official establishment of an Environmental Management System (EMS) by the SLOC was accomplished in final form only 2 years ago, many of the functions and activities prescribed by the EMS were already in progress and being practiced from the time that the Director of Environmental Programs assumed the post. These EMS components included:

- *Environmental training*
- *Environmental permitting*
- *Environmental controls and procedures*

- *Environmental auditing/inspections/monitoring/measurement*
- *Communications*
- *Environmental accountability/responsibility*
- *Non-compliance and corrective action*
- *Environmental documentation and record-keeping*
- *Emergency preparedness and response*
- *Waste reduction/minimization*
- *Security*
- *Management review*

The EMS connects all aspects of the Games in which environmental management practices and approaches should be considered.

During 2001, as final preparations were underway, the SLOC hired an environmental compliance manager to oversee venue compliance. The responsibilities of this position will be discussed under the Monitoring platform point.

2. Environmental Design and Construction

Goal...

To ensure that design and use of Olympic facilities adequately assess and minimize environmental impacts and complement natural surroundings.

The result of this approach is new and updated facilities that will capably serve the needs of the Winter Games while ensuring that the area's environment and economy will be sustainable for the long term, well beyond the 2002 Olympic Winter Games.

Beginning with early planning efforts, the SLOC worked with conservation groups, government agencies, and private industries to choose sites with the least impact on the surrounding environment. Environmental feasibility studies were performed to identify areas that should be avoided due to conditions that could be impacted by Olympic activities. After selecting the venue sites, the SLOC carefully managed the design and construction of the new facilities so as to minimize their environmental and economic impacts.

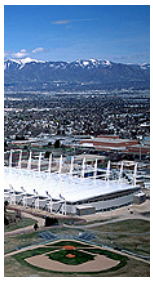
Of the 15 Olympic venues, only three were newly constructed: the Utah Olympic Oval in Kearns; the Soldier Hollow cross-country ski course; and the Utah Olympic Park bobsled, luge, and skeleton track, which includes the ski jump areas. The remaining 12 venues were upgraded from an environmental and energy-efficiency viewpoint. All of the Olympic venues have an identified long-term use. Thus, the result of this approach is new and updated facilities that will capably serve the needs of the Winter Games while ensuring that the area's environment and economy will be sustainable for the long term, well beyond the 2002 Olympic Winter Games. Table 2 outlines by venue the identified after-use for each of the facilities.

The Utah Olympic Oval is one of the successes of environmental design and construction. The Oval's unique cable-stayed structure uses 1/3 less steel than normally required for a building of its size. The U.S. Green Building Council recognized the energy efficient design and awarded the speed skating facility with a Leadership in Energy and Environmental Design System (LEEDS) rating. This is the first time an Olympic venue has ever received this award. Another example is the Soldier Hollow cross-country

ski course, which uses loops and crossovers in a course design intended to minimize the required acreage. Similarly, the Utah Olympic Park bobsled, luge, and skeleton track, as well as the ski jump areas, are built to follow the contours of the land to the maximum extent possible.

Table 2
Identified After-Use of Olympic Venues

Facility	Olympic Use—17 days	After-Use
Olympic Stadium	Opening/Closing Ceremonies	University of Utah Rice-Eccles Stadium
Snow Basin Ski Resort	Men's and Women's Downhill, Combined Downhill, and Super-G ski events	Privately owned four season resort
Deer Valley Ski Resort	Men's and Women's Slalom, Combined Slalom, Freestyle Moguls, Freestyle Aerials	Privately owned four season resort
Park City Mountain Resort	Snowboard Giant Slalom, Snowboard Halfpipe, Alpine Giant Slalom	Privately owned four season resort
Utah Olympic Oval, Kearns	Long Track Speed Skating	Speed Skating practice facility
E-Center, West Valley City	Men's and Women's Ice Hockey	Hockey and Events
Ogden Ice Sheet, Weber State University	Men's and Women's Curling Events	Curling Practice Ice Sheet
Peaks Ice Arena	Women's and Men's Ice Hockey	Ice Hockey and Skating
Soldier Hollow Ski Facility	Men's and Women's Cross-Country, Biathlon, Nordic Combined Events	State Operated Cross-Country (1 of 3 in U.S.); competition as well as public use
Utah Olympic Park	Men's and Women's Bobsleigh, Luge, Skeleton, Ski Jumping, Nordic Combined (Jumping) Events	Bobsleigh, Luge, Ski Jumping Competition and Training Facility (1 of 2 in U.S.); to be operated by Utah Athletic Foundation
Salt Lake Ice Center (Delta Center)	Figure Skating and Short Track Speed Skating Events	Home of Utah Jazz Basketball team, Events
Olympic Village	Athlete Housing	University of Utah Student Housing



The U.S. Green Building Council recognized the energy efficient design and awarded the speed skating facility with a Leadership in Energy and Environmental Design System (LEEDS) rating. This is the first time an Olympic venue has ever received this award.

The selection of the Soldier Hollow venue is an example of the holistic application of this platform point by the SLOC. Originally, Mountain Dell and East Canyon were the selected sites for the biathlon and cross-country events. After much public objection and discussion, those sites were abandoned because of potential adverse impacts to water resources and wildlife. A statewide search followed and Soldier Hollow was the popular choice by both winter sport experts and environmentalists.

Another example is the Snow Basin access road, which required upgrading to handle the anticipated use for the Games and as such, posed a significant challenge. The U.S. Forest Service facilitated a National Environmental Policy Act (NEPA)-style process on the new access road in 3 years—a process that normally takes up to 10 years. This was accomplished by involving interested stakeholders in a multi-discipline partnering team that analyzed the road and worked on the design and construction to ensure mitigation of issues. This project set a new standard of performance with the Department of Transportation.

Environmental considerations were also involved in the construction and remodeling of the Olympic Village. The Olympic Village consists of 40 historic buildings and 21 new buildings. The historic buildings are part of what was originally an Army installation, Fort Douglas. A grove of hybrid oak trees bordering the village was protected during construction. Other issues considered included the following:

- *Positioning buildings for optimal solar exposure*
- *Preserving and adding vegetation*
- *Developing efficient runoff systems for turn areas*
- *Establishing a sustainable ecosystem through bio-diversified plant materials*

The athlete housing will be used as University of Utah student housing following the Games.

3. Temporary Facilities

Goal...

To ensure that temporary facilities can be reused in a manner which benefits the entire community. Also, to restore any natural areas which are impacted by the installation and removal of such facilities.

Temporary facilities are required where the long-term use of the facilities will not be ensured after the Games. As such, the temporary facilities primarily include seating and/or parking at outdoor venues (Deer Valley Ski Resort, Park City Mountain Resort, Snow Basin Ski Resort, and the Medals Plaza). These temporary seating and/or parking facilities are currently being constructed in the least disruptive manner from an environmental viewpoint, and all construction contracts include clauses requiring contractors to restore sites to their respective original conditions. All temporary equipment and bleachers are either leased or will be resold following the Games.

One concern was that the Games would be over before the seasonal weather conditions would be conducive to dismantling the facilities and, where necessary, restoring sites to original conditions. The SLOC is committed to this platform point and has extended the contract of its Environmental Compliance Manager to ensure restoration as required.

4. Energy and Water Conservation

Goal...

To build facilities and adopt practices which conserve our valuable natural resources.

Several other facilities have been upgraded through the addition of state-of-the-art energy-saving technologies, which will not only benefit the Games, but also the long-term operations and economic viability of the facilities as well.

Energy Efficiency

The new structures built for the Olympics utilize energy-efficient designs. Examples are the Utah Olympic Oval, the Utah Olympic Park, and the Soldier Hollow Competition Management facility, which were designed and built with state of the art technology. The cable-stayed structure of the Utah Olympic Oval allowed for a lower ceiling, thereby reducing the energy requirements for creating ice and controlling the temperature within the facility.

At the Utah Olympic Park, a comprehensive energy audit provided recommendations to help reduce the site's energy usage by approximately 25 percent, due in part to a retractable shading system on the track. This reinforced vinyl cover keeps out snow and protects the ice from the sun. The EAC recommended that the E-Center, the site of men and women's ice hockey, be constructed with a glazed glass and a white roof to reflect the sun and reduce cooling and overall energy requirements. This was also recommended at other venues as well. The Peaks Ice Arena incorporates energy-saving technology that utilizes waste heat from the cooling processes to warm the building's water and air. Also, a special ceiling insulation barrier reduces the impact of the sun's rays on the ice within the building.

Several other facilities have been upgraded through the addition of state-of-the-art energy-saving technologies, which will not only benefit the Games, but also the long-term operations and economic viability of the facilities as well. Non-competition venues, such as the Main Media Center, Olympic Village, and Rice-Eccles Stadium, received similar consideration regarding lighting, heating and cooling, water heating and cooking energy needs.

Water Conservation

At the Utah Olympic Park, a project has been designed to capture runoff from the ski jump areas in a detention facility and to reuse the captured runoff for irrigation of vegetation in the immediate area. Although it is a relatively small project, it is significant in that it demonstrates how best to reuse a precious commodity and prevent the harmful effects of runoff that would normally otherwise occur. As was the case with upgraded energy efficiency technology, existing venues were upgraded to use low-flow water fixtures and use non-toxic paint on ice surfaces to reduce the possibility of contaminated runoff.

At the Snow Basin Ski Resort, a new wastewater treatment system is being put into operation to protect water quality in the area.

The SLOC is working with local governments and the U.S. Army Corps of Engineers on two venue-based aquatic habitat restoration projects. For the Decker Lake project, storm water runoff is to be collected from the E-Center. The runoff will proceed through several catchbasins, which will filter out sediment and contaminants, before the water reaches Decker Lake. Once there, the filtered runoff will help nurture plant life, as well as provide a clean refuge for migratory birds.

The Soldier Hollow area has suffered from years of cattle grazing and soil erosion, wiping out much of the plant and animal life. The SLOC funded a program to create 2.5 acres of wetlands in Soldier Hollow Meadow, which will restore natural vegetation and improve animal habitats. Although the project will not be completed prior to the Games, the expectation is that the process begun by the SLOC initiatives will result in long-term improvements to the aquatic habitat in these areas.

Transportation planning to conserve energy includes carpooling, telework options for SLOC employees, and incentives to use public transportation. Long haul buses and limited, expensive parking at venues will promote the use of public transportation during the Games.

5. Materials Management

Goal...

To responsibly manage material selection, use, consumption and disposition to minimize environmental impact.

The EAC recommended and the SLOC accepted a “zero waste” policy, intending that there would be no landfill of waste. The SLOC established a contract requirement of a minimum of 85 percent of waste to be recycled and the balance of the waste composted. Incentives are offered to the system contractor if higher recycle percentages are achieved.

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The SLOC’s waste management collection plan identifies a two-bin system, one bin for bottles and cans and another bin for everything else. A forum was conducted with all interested and affected stakeholders to discuss the plans. Attendees at the forum included regulators, recyclers, and other interested parties. Much good input was received, and the forum was recognized for consensus building and the open sharing of information and plans with attendees.

Cleaning products to be used for janitorial services are environmentally friendly products, although a drawback to the selected products is that they are individually portioned packaging. This is efficient and provides a cost savings, but produces more waste than bulk products.

To minimize waste and encourage the use of recyclable and compostible materials, the SLOC developed Waste and Packaging Guidelines for suppliers and vendors. The guidelines include a suggested food and beverage substitution list.

Some successes in the area of using environmentally friendly products include the use of paper packaging (biodegradable bowls and compostible plates) and compostible trash bags as components of the collection system.

The SLOC also reviewed snow production as a part of the Materials Management platform point, considering the seeding medium used, as well as snow removal and disposal procedures, so as too minimize potential adverse impacts on receiving water bodies.

6. Official Suppliers, Contractors, and Sponsors

Goal...

To work with suppliers, contractors, and sponsors to ensure that the products and the methods in which they are delivered are environmentally responsible.

The EAC developed environmentally sound procurement guidelines, although it is not clear that the application of these guidelines to all sponsor issues was universal. Most of the Olympic sponsors have a strong existing environmental program as a component of their normal operating procedures and policies. However, in a practice that has been typical of previous Olympic experiences, some of the value-in-kind or donated products provided by the sponsors for the 2002 Olympic Winter Games are not necessarily the most environmentally sound components of their operations. Unfortunately, when this occurs, the organizing committee is compelled to accept the products due to economic pressures and then must deal with the environmental impacts accordingly.

The SLOC established the "Environmental Champions" program, intended to provide a forum for sponsors to showcase their environmental programs, products, goods, and services. This program provides positive publicity for the sponsors in this arena and significant additional funding for environmental initiatives was obtained. The current Champions include PacifiCorp, Anhauser Busch, the U.S. Environmental Protection Agency (EPA), and the U. S. Forest Service.

7. Cultural Events and Ceremonies

Goal...

To use high profile events to further environmental education and to serve as a model for environmentally responsible event management.

The SLOC was recently recognized by the National Arbor Day Foundation for their efforts in urban forestry advocacy, with a national award and recognition at the organization's national conference in Washington, D.C.

The SLOC realized the multi-faceted intrinsic benefits of tree planting programs and sought to culturally encourage the practice through the opportunity presented by the Games. These programs provide significant benefits not only in terms of air and water quality and soil and watershed protection, but also by contributing to a positive mindset among the public through beautification of local landscapes, thus encouraging improved protection and enhancement of natural resources long after the Games are concluded.

There are several tree planting programs that have been implemented on behalf of the SLOC. The original goal was to plant 100,000 trees. The programs include the following:

Plant It Green!—This Internet-based, international program advocates the critical importance of urban forestry and its link to an improved quality of life. *Plant It Green!* encourages tree planting and provides a method for global citizenry to obtain information

on the many benefits of urban trees and forests and on effective urban forest stewardship. As of mid-November 2001, approximately 18 million trees have been planted in the name of the SLOC through this program.

The SLOC has worked diligently to bring together several national and international nonprofit organizations committed to tree planting through this effort and has facilitated the cooperation of groups who traditionally have not worked together with remarkable success. It is hoped that the creation of United Green Partners, 10 organizations which have tree planting as their primary objective, will remain a lasting, successful legacy of the Games. The SLOC was recently recognized by the National Arbor Day Foundation for their efforts in urban forestry advocacy, with a national award and recognition at the organization's national conference in Washington, D.C.

Treecology—Each year for the past three years, third graders have been provided the opportunity to plant trees statewide in Utah. So far, 6,000 to 8,000 trees have been planted.

Plant an Olympic Family Tree—In cooperation with local nonprofit tree planting organizations, Tree Utah, and the Utah Landscape and Nursery Association, citizens may purchase trees through participating nurseries each fall for a 20 percent discount. Purchasers receive clip-coupons with tree facts and a mail-in card for a free Olympic Winter Games pin. 17,000 trees have already been planted.

Coolspaces 2002—In an effort to reduce air temperature and pollution in the Salt Lake area, the SLOC is partnering with NASA on the Urban Heat Island Project. NASA conducted an overflight of the Salt Lake Valley and Olympic venues during the summer of 1998, photographing the area in the infrared and visual band. The resulting "heat map" of the Valley and Games venues highlights the locales with the highest temperatures.

Tree planting efforts focused on these areas will reduce the outside air temperature and summer air pollution. Ground level ozone, a hazardous air pollutant, is produced partly by heat. Studies have shown that if the urban tree cover can be increased by 5 percent, the production of ozone can be decreased by 10 percent. The SLOC and its partners will use the gathered data to identify the best areas in which to plant trees.

Capital Tree Program—Olympic Winter Games pin sales funded the purchase of trees to replace those lost during the tornado that struck Salt Lake City in 1998.

Venue Tree Program—Through this program, several venues are planting trees before and after the Games to help reduce soil erosion and offset any reduction in the tree canopy associated with the construction of the facilities. This program will not be fully implemented until all restoration efforts are complete. It is expected to add in excess of 10,000 trees to the venue areas.

8. Sports and Sports Organizations

Goal...

To encourage the Olympic teams and sports organizations to develop environmental messages and profiles that are suited to the sport itself and to the Olympic spirit.

. . .athletes are willing and anxious partners to help deliver environmental messages. . .

The SLOC has had the Olympic athletes deliver environmental messages, including Sara Will, Debbie Armstrong (Plant It Green!), Niki Stone, and Eric Burgest (Earth Day spokesperson). Many athletes are also involved in the educational outreach programs. The SLOC discovered that the athletes are willing and anxious partners in helping to deliver environmental messages, as they possess a strong love and respect for the outdoors and natural environments in which they compete. Because athletes serve as strong role models for persons of all ages, their support of environmental messages is extremely effective.

The SLOC planned a North American Conference on Sports and the Environment, entitled "Survival of the Greenest". This conference was to be held in Salt Lake City on September 17 - 19, 2001. Due to the terrorist activities that occurred the week prior to the conference, it was postponed indefinitely.

9. Environmental Education

Goal...

To realize the Olympics as a unique vehicle to educate both children and adults regarding environmental issues.

Each year between 1998 and the commencement of the Games, the SLOC will recognize individuals and organizations for excellence in environmental education. The recognition, which will be acknowledged for efforts in both the public and private sectors, will occur at a ceremony during the 2002 Olympic Winter Games.

The SLOC's intent for this platform point was to identify existing educational materials and to find out what educators wanted or needed in the area of environmental education. To that end, teacher workshops were conducted, culminating in an Environmental Education Summit in November 1998. Most educators felt that enough curriculum already exists, and that identification, development, and implementation of environmental education activities are needed. The discussions resulted in the identification of more than 100 activities for further consideration.

A second outcome of the summit was the establishment of the Utah Society of Environmental Education (USEE) as the statewide clearing house for environmental education. The USEE is now recognized and endorsed by the Utah Department of Environmental Quality (DEQ) and the EPA.

A third outcome was the adoption of ideas generated during the summit, which are now key elements of the Games Environmental Education Program:

- *The placement of kiosks displaying environmental messages at the six major ski venues. There will be a similar environmental education display at the visitors center on Main Street.*

- *The creation of The Spirit of the Land Program to ensure the protection of Utah's environment while staging the 2002 Olympic Winter Games. Each year between 1998 and the commencement of the Games, the SLOC will recognize individuals and organizations for excellence in environmental education. The recognition, which will be acknowledged for efforts in both the public and private sectors, will occur at a ceremony during the 2002 Olympic Winter Games.*

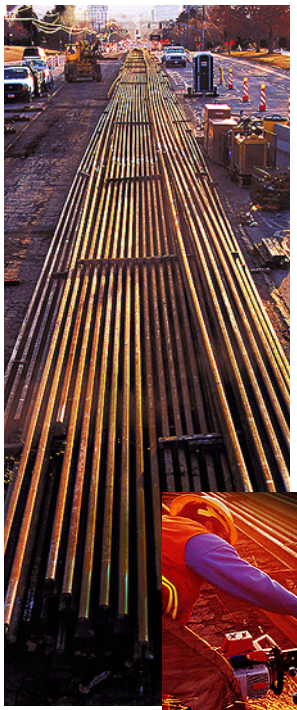
- *The production of videos with environmental messages. "Bill Nye the Science Guy" took part in public service announcement videos covering inversions, water conservation, and waste management. Eight winter sport vignettes were produced that will be telecast in 103 media markets and on local ski area channels between October 2001 and March 2002. The vignettes identify environmental issues and are hosted by Olympic athletes.*
- *The production of six enviro-minutes that will provide general environmental venue information.*
- *The creation of the "Natural Inquirer"– an entertaining, interesting, and educational publication on natural resources and the environment. This program is aimed at middle school students and provides fun environmental facts.*
- *The Treecology program for third graders, described under the Cultural Events and Ceremonies platform point, is also a strong component of environmental education and awareness.*

10. Transportation

Goal...

To minimize transportation impacts, their related environmental problems, encourage mass transit and other environmentally responsible modes of transportation.

The SLOC's goal is to realize a net decrease in air pollution levels as a result of hosting the Games in Salt Lake City.



The SLOC involved the Division of Air Quality, Utah Department of Environmental Quality (UDEQ), EPA, and the Utah Environmental and Public Health Alliance (EPHA) to develop a first ever Games-time Air Quality Plan. This plan addresses the SLOC's transportation impacts and mitigation, as well as other programs that will improve air quality. The SLOC's goal is to realize a net decrease in air pollution levels as a result of hosting the Games in Salt Lake City. The "Olympic Cleaner and Greener" initiative will net negative environmental impacts as a result of the Games. The SLOC is working with a private company to obtain donated credits for emissions. Adequate credits have been pledged for all pollutants to cover all emissions with the exception of NOx. All emissions covered by donated credit will be permanently retired.

To complement the Air Quality Plan, the SLOC is working with the Transportation Management Association (TMA), Utah Transit Authority (UTA), the Wasatch Front Regional Council, and the Utah Department of Transportation (UDOT) to develop and implement an effective Transportation Demand Management (TDM) system to reduce traffic congestion and mitigate any negative effects on air quality.

The types of transportation available to venues will include vans, buses, and TRAX. Original plans for widespread use of compressed natural gas (CNG)-powered buses were reduced when other cities were unable to supply these vehicles as pledged. Thus, the number of CNG-powered buses actually used will be less than planned. Athletes will be transported by vans. Two hundred of the 500 vans will be CNG-powered vehicles. The SLOC is working with Clean Cities to find buyers for the vans after the Games are concluded. The media will be transported to venues from the Salt Palace by coach buses. Where feasible, at outlying venues, the media have been hoteled nearby to reduce transportation requirements. The media are required to have parking permits. Sponsors are responsible for their own transportation. General spectators are encouraged to use park and ride lots to the mountain venues. There are many options to ride public transportation and all ticket holders and volunteers will ride free. Volunteers have, wherever possible, been assigned to venues near their homes in

order to minimize commuting and thereby reduce resultant emissions. The carpool goal is three people per vehicle.

The TDM group will help promote programs such as ride share, telecommuting, flex scheduling, compressed work schedule, and UTA transit/light rail use. The public, near impact areas, will also be educated and provided with information concerning peak Olympic travel times, street restrictions, and event routes, so that commuting schedules may be adjusted, if necessary, and alternate methods of travel chosen. UDOT will be managing a transportation operations center. This will include signal regulators and the "Know Before You Go" program.

The venue bus drivers will undergo extensive training. Transit drivers will be coming with buses from other cities, but will be assigned consistent routes to minimize confusion and possible wasted trips. Internet maps will be made available. Athlete van drivers will be local drivers who are familiar with venue routes.

11. Lodging and Food Services

Goal...

To provide environmentally sensitive lodging and food services for our visitors.

The SLOC developed and sponsored EcoWorks 2002, a hotel and restaurant greening initiative, which included the development of a survey to assess which lodging facilities are currently environmental friendly. In May 2000 the first seminar was held for area hotel and restaurant facilities. The seminar introduced service managers to the latest "green" business strategies, including those that deliver financial savings. Some of the tactics presented included water and energy conservation, as well as effective recycling methods. Many hotels have placed cards advocating towel reuse in hotel rooms. This program has been very successful.

12. Environmental Monitoring

Goal...

To monitor the progress of the SLOC in meeting its environmental goals.

The SLOC has developed a compliance monitoring program for implementation through venue buildout in accordance with the SLOC EMS. Independent parties are conducting assessments on a regular basis to ensure compliance with all state and federal environmental regulations, and state liaisons have been set up for each media (air, water, etc.). The goal is to provide each venue manager with the necessary knowledge to ensure they continue to meet compliance requirements.

In addition to complying with local, state, and federal rules and regulations, the SLOC has achieved considerable environmental accomplishments…

Summary

After reviewing available information, it is the opinion of CH2M HILL that, to the best of our knowledge and ability to determine, the SLOC has never been the subject of any administrative or judicial enforcement actions pertaining to environmental compliance. In addition to complying with local, state, and federal rules and regulations, the SLOC has achieved considerable environmental accomplishments, in spite of resource limitations and dramatic changes in senior management. The SLOC's strong commitment to environmental management is evident by the many programs implemented, and it can be said that the SLOC has met and exceeded the 12 platform points in most areas, "raising the bar" on environmental management at the Olympic Games. The most notable accomplishments include the sustainable facilities programs, the legacy programs related to environmental education and tree planting initiatives, and the development of processes used to select and design sites and venues through fast-track stakeholder involvement.

The Numbers "Bring It Home"

✓ **18 million trees planted in the name of the SLOC**

✓ **Zero air emissions—The "Olympic Cleaner and Greener" Program**

- *Eliminated 180,000 tons of CO_2*
- *Eliminated 1,040 tons of NOx/SOx/PM-10/HC/mercury/volatile organic compounds*

✓ **Zero waste**

- *3,000 tons of solid waste (85%) recycled /composted*
- *3 million biodegradable products used (4-5% of waste stream)*

✓ **First LEEDS rating for Olympic facilities**

SPIRIT OF THE LAND™
SLOC ENVIRONMENTAL PROGRAM

[1] CH2M HILL is a global consulting, engineering and project delivery firm in water, environment, and transportation that has 12,000 employees worldwide. The firm has had an extensive involvement with the Olympic Games, having first served as *The Environmental Advisor to the 1996 Atlanta Olympic Games* and as developer of the Sydney 2000 Olympic Environmental Management System (EMS) as well as other components of the Sydney environmental program. CH2M HILL has also worked with numerous candidate cities, most recently Beijing. CH2M HILL is recognized as a world leader in environmental management and sustainable development projects. For additional information, contact Rick Hirsekorn at 770/604-9095, or rhirseko@ch2m.com.

[2] CH2M HILL provided this effort as an independent assessment and is solely responsible for the opinions and conclusions expressed herein.